Remarks

Claims 11-21 are currently pending in this application. Claims 11, 15 and 19 have been amended. No new matter has been added as the amendments have support in the specification as originally filed.

Interview

Applicant gratefully acknowledges the telephonic interview with the Examiner conducted on October 13, 2011. Applicant has attempted to address the issues raised by the Examiner in the interview with this response. The Examiner's comments and explanations were helpful and very much appreciated. Pursuant to MPEP § 713.04, Applicant provides the following remarks.

During the interview, Applicant discussed with the Examiner the rejections of Claims 11-13 under 35 U.S.C. § 112, and suggested deleting the phrase, "from ambient temperature" recited in Claim 11. Applicant also pointed out to the Examiner that the present invention should be distinguished from Fisher '347 due to the presence of organic materials in the silica gel of Fisher '347. Examiner also agreed with the Applicant that none of the references disclose one of the features recited in Claim 11, namely "performing a heat-treatment on a plurality of silica gel pellets for *n* minutes, wherein the heat-treatment includes a temperature increasing stage of duration about *n/2* minutes, and a temperature maintaining stage of duration about *n/2* minutes," and indicated that Claims 11-13 have not been rejected under 35 U.S.C. § 103(a). (Emphasis added). At the conclusion of the interview, the Examiner stated that further search and consideration may be required.

Claim Rejections under 35 U.S.C. § 112

The Examiner has rejected Claims 11-13 under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement, and further under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

the Examiner has indicated that although Claim 11 recites that the silica gel pellets are heated "from ambient temperature," Applicant's specification does not recite any particular starting temperature of the silica gel pellets. The Examiner continued to point out that it is unclear what temperatures fall within the metes and bounds of the claim as the specification does not recite "ambient temperature."

To address the Examiner's concern, Applicant has deleted the phrase "from ambient temperature" recited in Claim 11. The Applicant respectfully submits that this amendment places Claim 11 and its dependent Claims 12-13 in compliance with the requirements of 35 U.S.C. § 112. The Applicant therefore respectfully requests that the outstanding rejections be withdrawn.

Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected Claims 15-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,867,156 ("Fukumoto '156") in view of U.S. Patent No. 2,883,347 ("Fisher") and U.S. Patent No. 3,717,486 ("Fukumoto '486"). Specifically, the Examiner has indicated that, although Fukumoto '156 is silent regarding increasing the temperature in the rotary tube furnace at a specific rate, Fisher teaches controlling a rate of temperature increase in treating silica gel to not be too high in order to control the *burning out of organic substances and prevent contamination* of the silica product (Office Action, page 5, lines 4-8). In this regard, Fisher states that "the silica gel, *formed by the hydrolysis of organic silicates*, may contain entrapped organic hydrolysis products… too rapid approach to the firing temperature may carbonize the organic impurities in the gel, possibly leading to the presence of small carbon particles admixed with the fired silica granules (column 6, lines 8-15) (Emphasis added). Therefore, it appears that the Examiner has found a motivation to combine Fukumoto '156 and Fisher to be preventing contamination of the silica product.

First of all, Applicant respectfully notes that "too rapid approach" disclosed in Fisher is a relative term, and in this regard, the duration of temperature increasing stage in the present invention may be regarded as a "too rapid approach" under the interpretation of Fisher. Fisher states that the temperature of the firing is about 1000-

1200°C (col. 5, lines 68-73), and that heating times between 1 hr and 16 hrs have been found best, preferably 4 hrs (col 6, lines 2-3). In the present invention, however, the maximum duration of the temperature increasing stage is 30 minutes. As the heating time is much shorter than Fisher, the temperature increase performed in the present invention may be viewed as a "too rapid approach" from Fisher's perspective, and one of ordinary skill in the art would not increase the temperature as rapid as the present invention.

Further, one of ordinary skill in the art would not have the motivation to combine the references because the present invention does not contain any carbon materials. Fisher explicitly states that too rapid approach to the firing temperature may carbonize the organic impurities in the gel, but as the present invention does not contain such carbon materials, one of ordinary skill in the art would not be concerned with the possible contamination, and may instead choose the "too rapid approach." As stated above, in Fisher, the silica gel contains entrapped organic hydrolysis products in addition to the silica gel, and thus, it appears that the silica gel and the entrapped organic materials are two distinct materials. For the purpose of clarifying such difference, however, Applicant has amended Claims 11, 15 and 19 to define the silica gel to be an inorganic material. Accordingly, based on the teaching of Fisher, a rate of increasing temperature in treating silica gel cannot be considered as a result effective variable.

Moreover, as the Examiner acknowledges that Fukumoto '486 merely teaches controlling a rate of temperature increase in treating silica gel to not be too low in order to maintain strength of the silica product, one of ordinary skill in the art may still control the rate of temperature increase in treating silica gel to be "too rapid."

The Examiner has further rejected Claims 14 and 19-21 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,867,156 ("Fukumoto '156") in view of U.S. Patent No. 3,717,486 ("Fukumoto '486") and U.S. Patent No. 4,392,988 ("Dobson"). The Examiner has similarly pointed out that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Fukumoto '156 by controlling the temperature of the rotary tube furnace to optimize the

rate of temperature increase, as suggested by Fisher, for the benefit of controlling the burning out of organic substances and preventing contamination of silica product. However, at least for the reasons discussed above, the rate of temperature increase should not be viewed as a result effective variable.

Based on the foregoing, the Applicant respectfully submits that Fisher and Fukumoto '486 cannot be used in a rejection under 35 U.S.C. § 103, and respectfully requests that the rejection of Claims 14-21 be withdrawn.

No Disclaimers or Disavowals

Although this communication may include amendments to the application, and may characterize the claim scope and/or referenced art, the Applicant does not concede that previously pending claims are not patentable over the cited references. Rather, any amendments and/or characterizations are being made to facilitate expeditious prosecution of this application. The Applicant reserves the right to later pursue any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history cannot reasonably infer that the Applicant has made any disclaimers or disavowals of any subject matter supported by the present disclosure.

Conclusion

In view of the foregoing, this application is believed to be in condition for allowance, and such allowance is respectfully requested. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact the Applicant's attorney at the number given below.

The Commissioner is authorized (a) to charge LEXYOUME's Deposit Account No. 504054 for any fees required under 37 C.F.R. §§ 1.16 and 1.17 that are not covered, in

whole or in part, by a credit card payment form submitted herewith, and (b) to credit any overpayment to said Deposit Account No. 504054.

Respectfully submitted,

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